(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 564 826 B9**

(12) **CORRECTED EUROPEAN PATENT SPECIFICATION**

(15) Correction information:
Corrected version no 1 (W1 B1)
Corrections, see
Description
Claims EN
Numerous spelling errors of minor importance

(48) Corrigendum issued on:
08.04.2015 Bulletin 2015/15

(45) Date of publication and mention of the grant of the patent:
26.11.2014 Bulletin 2014/48

(21) Application number: **11179224.8**

(22) Date of filing: **29.08.2011**

(51) Int Cl.:
A61G 5/12 *(2006.01)*

(54) Backrest for wheelchair

Rückenlehne für einen Rollstuhl

Dossier de fauteuil roulant

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(43) Date of publication of application:
06.03.2013 Bulletin 2013/10

(73) Proprietor: **Invacare International Sàrl**
1196 Gland (CH)

(72) Inventor: **Johansson, Ulf**
34337 Älmhult (SE)

(74) Representative: **Ganguillet, Cyril**
ABREMA
Agence Brevets & Marques Ganguillet
Avenue du Théâtre 16
P.O. Box 5027
1002 Lausanne (CH)

(56) References cited:
US-A- 5 593 211
US-A- 5 647 637
US-A- 5 954 402
US-A1- 2006 091 706
US-A1- 2010 276 974

EP 2 564 826 B9

Printed by Jouve, 75001 PARIS (FR)

Description

FIELD OF THE INVENTION

[0001] The present invention relates to a backrest for a wheelchair provided with an adjustable cushion support, a backrest frame for holding said cushion support and attachment members, for attaching said cushion support to said backrest frame.

BACKGROUND OF THE INVENTION

[0002] Many backrests types are known in the art. Most backrests are attached to a frame and do not allow any adjustment possibilities. Adjustable backrests are also known. For instance, document US 2006/0091706, Christofferson et al. "Seat assembly for wheelchair", describes a typical seat assembly that can be mounted on various wheelchair bases. The seat assembly enables the seat width and backrest width to be adjusted independently of each other. The backrest has a plurality of open slots, the number and orientation of which contributes to depth, width, and height adjustment of the backrest as well as angular adjustment of lateral supports to permit the backrest to conform to the anatomical curves of a user. A first set of slots is provided for height adjustment of the thoracic support. Further slots are provided for lateral adjustment of the thoracic support. Threaded fasteners provided in adjustment holes are provided for height adjustment of the backrest with respect to a main member. In the disclosed embodiment, all adjustments are made independently, involving time consuming manipulations. Moreover, once a first adjustment has been made with a first member, further adjustments of this first member may be required after another member is adjusted. Finally, in this known wheelchair, the backrest comprises a central part and two lateral parts which are rigid. Therefore, it is not possible to deform these parts so as to adapt the shape of the backrest to the anatomical curves of a user.

[0003] Thus, there is a need for a backrest for wheelchair avoiding the above-mentioned drawbacks. Such backrest should be adjustable in a quick and easy way.

[0004] There is also a need for a backrest that may be manufactured with reasonable equipment requirements in a cost effective way.

[0005] Finally, there is a need for a backrest that may be deformed so as to adapt its shape to the anatomical curves of a user.

SUMMARY OF THE INVENTION

[0006] According to the invention, these aims are achieved by means of a backrest according to claim 1.

[0007] Important features of the device are defined in the dependent claims.

[0008] With such an arrangement, the parallel slots enable adjustment of the position of the cushion support with regard to the backrest frame. Adjustment is thus easier and quicker to perform than standard configurations having separate adjustments.

[0009] Moreover, the flexible and length-adjustable straps of the cushion support enable separate adjustment of each side bars of said cushion support. Thus, the shape of the cushion support may advantageously be adapted to the morphology of the user.

[0010] The invention also provides a wheelchair having backrest according to the above-mentioned characteristics.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] The invention will be better understood with the aid of the description of an embodiment given by way of example and illustrated by the figures, in which:

- Figure 1 illustrates a partially exploded front perspective view of a backrest according to the invention, when connected to a wheelchair seat;
- Figure 2 is a partially exploded side view of the backrest of Figure 1;
- Figures 3a and 3b are, respectively, a front view and a side view of the backrest of Figure 1, in a first position of use;
- Figures 4a and 4b are, respectively, a front view and a side view of the backrest of Figure 1, in a second position of use;
- Figures 5a and 5b are, respectively, a front view and a side view of the backrest of Figure 1, in a third position of use;
- Figures 6a and 6b are, respectively, a front view and a side view of the backrest of Figure 1, in a fourth position of use;
- Figure 7 is a front view of the backrest of Figure 1, in a fifth position of use;
- Figure 8 is a front perspective view of the backrest of Figure 1, showing the complete structure of the cushion support.

DETAILED DESCRIPTION OF THE INVENTION

[0012] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope

of the invention to those skilled in the art.

[0013] Figure 1 illustrates a perspective view of the backrest 1, when it is connected to the seat frame 2 of a wheelchair. So as to improve the understanding, some components have been shown in exploded view and some other components have been partially removed. Further details of the backrest 1 may also be seen on Figure 2.

[0014] The backrest 1 comprises two main parts, i.e. a cushion support 10 supporting a backrest cushion (not shown) and a backrest frame 20 holding said cushion support 10. The backrest cushion may be made with foam or other soft material to provide more comfort for the user. A covering may also be provided. The cushion support 10 is attached to the backrest frame 20 by means of attachment members 3. In the illustrated embodiment, said attachment members 3 consist in bolts or screws adapted to be threadedly received in a series of threaded holes 25 formed inside two side posts 21a and 21b of the backrest frame 20. Said side posts 21a and 21b are linked at their lower ends by a connection profile 21c so as to form a first U-shape element 21 defining approximately a plane P2. Said first U-shape element 21 is removably connected to a second U-shape element 22 comprising two side posts 22a and 22b linked at their upper ends by a connection profile 22c, said second U-shape element 22 defining a plane P3 close to and approximately parallel to the plane P2. Said elements 21and 22 may for instance be clamped together by using upper clamping elements 23a, 23b and lower clamping elements 24a, 24b positioned respectively in the upper part and in the lower part of each side post 22a and 22b. Each clamping elements 23a, 23b and 24a, 24b may consist for instance in a plate bent at its two side ends so as to define an internal space inside which one of said side posts 22a or 22b and corresponding side post 21a or 21b are tightly disposed. As illustrated in Figures 1 and 2, when the elements 21and 22 are connected together, the upper clamping elements 23a, 23b may advantageously be positioned along the side posts 21a and 21b respectively so as to cover a section of said side posts 21a and 21b comprising the threaded holes 25. Accordingly, corresponding holes 26 are formed in said upper clamping elements 23a, 23b so that said holes 25 and 26 are axially aligned when said elements 21and 22 are connected together.

[0015] As shown in greater details in Figure 8, the cushion support 10 comprises two side bars 11a and 11b and a plurality of transversally extending and vertically spaced apart flexible straps 14, each strap 14 interconnecting said two side bars 11a and 11b and each strap 14 having length-adjusting means for adjusting the length of said straps. In adjusting the length of said straps, the tension of said straps may be changed in conformity with the user's need. In one preferred embodiment (not shown), said length-adjusting means consist in Velcro (registered trademark) fasteners provided on one side of the straps 14 and in complementary Velcro (registered trademark) fasteners provided on the other side of the straps 14. The side bars 11a and 11b may be straight or, as illustrated in Figures 1 and 2, may be formed by two straight end sections linked to a straight middle section so that said end sections are inclined with regard to the middle section. In the position of use of the backrest 1, the middle sections of the side bars 11a and 11b will be advantageously positioned so as to be parallel in a plane P1. The cushion support 10 comprises also two connecting plates 12a and 12b, each plate 12a and 12b being integral with one of said side bars 11a and 11b and being provided with two parallel adjustment slots 13. In a further embodiment (not shown) of the invention, said plates 12a and 12b may also comprise a greater number of slots 13. The slots 13 of each plates 12a and 12b are advantageously aligned in a plane forming with the plane P1 an angle α, α>0, said angle α lying preferably between 30° and 60°, and more preferably, being approximately equal to 45°. Said slots 13 may have a length lying between 10 mm and 50 mm, and, preferably, a length approximately equal to 35 mm when said angle α is approximately equal to 45°.

[0016] To adjust the depth and angular position of the cushion support 10 with regard to the backrest frame 20, the attachment members 3, i.e. bolts or screws, are slidably mounted on the adjustment slots 13. Adjustment may be made in a very simple and quick way. When the bolts or screws 3 are slightly loosened, that is to say enough to allow the bolts or screws 3 to slide inside the slots 13, but not enough to allow complete removal of the cushion support 10 from the backrest frame 20, the plates 12a and 12b, together with the side bars 11a and 11b, may be independently moved backward, forward or inclined and adjusted along a position allowing a maximum comfort for the user. In order to change the position of the bolts or screws 3 inside the slots 13, said slots 13 should advantageously be large enough to allow said bolts or screws to pivot as a group in said slots without being removed from said slots. Once an appropriate position is reached, the plates 12a and 12b are secured with the bolts or screws 3 against the clamping elements 23a and 23b respectively. This operation simultaneously allows securing said clamping elements 23a and 23b against the side posts 21a and 21b respectively. In this way, the cushion support 10 is firmly held against the backrest frame 20. The position of the cushion support 10 with regard to the backrest frame 20 may also be modified in height by introducing the bolts or screws 3 in other holes 25 and 26 as illustrated in dotted lines in Figures 1 and 2.

[0017] The slots 13 enable a very wide choice of potential positions. Some examples of said potential positions are illustrated in Figures 3a, 3b, 4a, 4b, 5a, 5b, 6a, 6b and 7. In the above mentioned Figures, the slots 13 may be defined as a straight segment extending between a proximal end 13p and a distal end 13d, said proximal end 13p being closer to the plane P1 than the distal end 13d. In addition, the two slots 13, respectively an upper slot 13' and a lower slot 13", of each plate 12a and 12b

are aligned in a plane forming with the plane P1 an angle approximately equal to 45°. This specific configuration permits a simultaneous and similar change of the depth position of the cushion support 10 with regard to the backrest frame 20 and of the width of the cushion support 10. Said depth position may be defined by the distance between the plane P1 and the plane P2 and said width may be defined by the distance between the middle sections of the side bars 11a and 11b.

[0018] Thus, when all bolts or screws 3 are aligned with the proximal ends 13p of the slots 13, as illustrated in Figures 3a and 3b, the planes P1 and P2 are approximately parallel and the cushion support 10 is positioned in its less wide position, the distance d_1 between the planes P1 and P2 and the distance l_1 between the side bars 11a and 11b being minimum.

[0019] On the contrary, when all bolts or screws 3 are aligned with the distal ends 13d of the slots 13, as illustrated in Figures 4a and 4b, the planes P1 and P2 stay approximately parallel but the cushion support 10 is positioned in its widest position, the distance d_2 between the planes P1 and P2 and the distance l_2 between the side bars 11a and 11b being maximum.

[0020] In the configuration illustrated in Figures 5a and 5b, the bolts or screws 3 received in the upper slots 13' are closer to the distal ends 13d than to the proximal ends 13p of said upper slots 13' and, inversely, the bolts or screws 3 received in the lower slots 13" are closer to the proximal ends 13p than to the distal ends 13d of said lower slots 13". Thus, in this configuration, the plane P1 is inclined forward with regard to the plane P2, said plane P1 forming an angle $\beta 1$ with said plane P2 and the distance l_3 separating the upper sections of the side bars 11a and 11b being higher than the distance l_4 separating the lower sections of the side bars 11a and 11b. This configuration is well adapted for a man, because a man is generally broad-shouldered and has thin hips.

[0021] In the configuration illustrated in Figures 6a and 6b, the bolts or screws 3 received in the upper slots 13' are closer to the proximal ends 13p than to the distal ends 13d of said upper slots 13' and, inversely, the bolts or screws 3 received in the lower slots 13" are closer to the distal ends 13d than to the proximal ends 13p of said lower slots 13". Thus, in this configuration, the plane P1 is inclined backward with regard to the plane P2, said plane P1 forming an angle $\beta 2$ with said plane P2 and the distance l_5 separating the upper sections of the side bars 11a and 11b being lower than the distance l_6 separating the lower sections of the side bars 11a and 11b. This configuration is well adapted for a woman, because a woman is generally thin-shouldered and has broad hips.

[0022] In the configuration illustrated in Figure 7, the bolts or screws 3 received respectively in the upper slot 13' of the side bar 11b and in the lower slot 13" of the side bar 11a are closer to the proximal ends 13p than to the distal ends 13d of said upper and lower slots and, inversely, the bolts or screws 3 received respectively in the lower slots 13" of the side bar 11b and in the upper slot 13' of the side bar 11a are closer to the distal ends 13d than to the proximal ends 13p of said lower and upper slots. Thus, in this configuration, the plane P1 is inclined sideways with regard to the plane P2 and the distance l_7 separating the upper sections of the side bars 11a and 11b being approximately equal to the distance l_8 separating the lower sections of the side bars 11a and 11b. This configuration is well adapted for a person suffering of scoliosis.

[0023] In the illustrated embodiment of Figures 1 and 2, the backrest frame 20 is pivotally connected to the seat frame 2 around the axis 29. In particular, two arms 27a and 27b extending in a direction approximately perpendicular to the plane P2 and integral with, respectively, the side posts 21a and 21b are pivotally connected to corresponding arms 4a and 4b of the seat frame 4, said arms 4a and 4b extending in a direction close to the vertical or slightly inclined with regard to the vertical. In order to modify the inclination of the backrest frame 20 with regard to the seat frame 2, a gas piston (not shown) fixedly connected to the seat frame 2 may be connected at its free end to a connecting structure 28 positioned underneath and in the center of the connection profile 21c of the backrest frame 20.

[0024] The above detailed description with reference to the drawings illustrates rather than limit the invention. There are numerous alternatives, which fall within the scope of the appended claims. For instance, the clamps and holder members are shown with screws and nuts. Other types of fastening means may also be used without departing from the invention.

[0025] The word "comprising" does not exclude the presence of other elements or steps than those listed in a claim. The word "a" or "an" preceding an element or step does not exclude the presence of a plurality of such elements or steps. The mere fact that respective dependent claims define respective additional features, does not exclude a combination of additional features, which corresponds to a combination of dependent claims.

Claims

1. A backrest (1) for a wheelchair, comprising:

- an adjustable cushion support (10), for supporting a backrest cushion, said cushion support (10) defining substantially a plane P1;
- a backrest frame (20), for holding said cushion support (10), said backrest frame having two substantially parallel side posts (21a, 21b) defining substantially a plane P2;
- attachment members (3), for attaching said cushion support (10) to said backrest frame (20);

characterised in that:

- said cushion support (10) comprising two side

bars (11a, 11b) and a plurality of transversally extending and vertically spaced apart flexible straps (14) each interconnecting said two side bars (11a, 11b), each strap having length-adjusting means for adjusting the length of said straps;
- said cushion support (10) comprising at least two connecting plates (12a, 12b), each plate (12a, 12b) being integral with one of said side bars (11a, 11b) and being provided with at least two parallel adjustment slots (13, 13', 13"), said slots defining an angle α, α>0, with said plane P1;
- said attachment members (3) being slidably mounted on said slots (13, 13', 13"), enabling depth, width and angular adjustment of said cushion support (10) on said backrest frame (20).

2. A backrest (1) according to claim 1, wherein said attachment members (3) consist in bolts or screws adapted to be threadedly received in threaded holes (25) formed inside the side posts (21a, 21b) of the backrest frame (20).

3. A backrest (1) according to claim 2, wherein the parallel slots (13, 13', 13") are large enough to allow said bolts or screws (3) to pivot as a group in said slots without being removed from said slots.

4. A backrest (1) according to any one of claims 1 to 3, wherein the angle α lies between 30° and 60°.

5. A backrest (1) according to claim 4, wherein the angle α is approximately equal to 45°.

6. A backrest (1) according to any one of claims 1 to 5, wherein the length of the parallel slots (13, 13', 13") lies between 10 mm and 50 mm.

7. A backrest (1) according to claim 5, wherein the length of the parallel slots (13, 13', 13") is approximately equal to 35 mm.

8. A backrest (1) according to claim 2, wherein the side posts (21a, 21b) of the backrest frame (20) are provided with a series of threaded holes (25) adapted to threadedly receive said attachment members (3), enabling height adjustment of said cushion support (10) on said backrest frame (20).

9. A backrest (1) according to any one of claims 1 to 8, wherein said length-adjusting means consist in Velcro fasteners provided on one side of the straps (13, 13', 13") and in complementary Velcro fasteners provided on the other side of the straps (13, 13', 13").

10. A backrest (1) according to any one of claims 1 to 9, wherein the side bars (11a, 11b) of the cushion support (10) are bent in at least two places, thus defining at least three successive straight sections.

11. A backrest (1) according to any one of claims 1 to 10, wherein the backrest frame (20) comprises a first U-shape element (21) and a second U-shape element (22), said first element (21) comprising two side posts (21a, 21b) linked at their lower ends by a connection profile (21c) and said second element (22) comprising two side posts (22a, 22b) linked at their upper ends by a connection profile (22c), said first and second elements (21, 22) being clamped together by upper clamping elements (23a, 23b) and lower clamping elements (24a, 24b).

12. A backrest (1) according to claim 11, wherein each clamping element (23a, 23b, 24a, 24b) consists in a plate bent at its two ends so as to define an internal space inside which one of the side posts (21a, 21b) of the first U-shape element (21) and corresponding side post (22a, 22b) of the second U-shape element (22) are tightly disposed.

13. A backrest (1) according to claim 11 or claim 12, wherein said upper clamping elements (23a, 23b) are respectively positioned along the side posts (21a, 21b) of the first U-shape element (21) so as to cover a section of said side posts (21a, 21b) comprising a series of threaded holes (25) adapted to threadedly receive said attachment members (3), said upper clamping elements comprising a series of corresponding holes (26) adapted to receive said attachment members (3).

14. A wheelchair having a backrest (1) according to any one of preceding claims.

Patentansprüche

1. Rückenlehne (1) für einen Rollstuhl, umfassend:

- eine verstellbare Polsterstütze (10) zum Stützen eines Rückenlehnenpolsters, wobei die Polsterstütze (10) im Wesentlichen eine Ebene P1 definiert;
- einen Rückenlehnenrahmen (20) zum Halten der Polsterstütze (10), wobei der Rückenlehnenrahmen zwei im Wesentlichen parallele Seitenpfosten (21a, 21b) aufweist, die im Wesentlichen eine Ebene P2 definieren;
- Befestigungselemente (3) zum Befestigen der Polsterstütze (10) an dem Rückenlehnenrahmen (20);

dadurch gekennzeichnet, dass

- die Polsterstütze (10) zwei Seitenholmen (11a, 11b) und mehrere quer verlaufende und vertikal beabstandete flexible Gurte (14) umfasst, die jeweils mit den zwei Seitenholmen (11a, 11b) verbunden sind, wobei jeder Gurt ein Längeneinstellmittel zum Einstellen der Länge der Gurte aufweist;
- die Polsterstütze (10) mindestens zwei Verbindungsplatten (12a, 12b) umfasst, wobei jede Platte (12a, 12b) mit einem der Seitenholme (11a, 11b) einstückig ausgebildet ist und mit mindestens zwei parallelen Einstellschlitzen (13, 13', 13") bereitgestellt ist, wobei die Schlitze einen Winkel α, α>0 mit der Ebene P1 definieren;
- die Befestigungselemente (3) an den Schlitzen (13, 13', 13") verschiebbar befestigt sind, sodass eine Tiefen-, Breiten- und Winkeleinstellung der Polsterstütze (10) an dem Rückenlehnenrahmen (20) ermöglicht wird.

2. Rückenlehne (1) nach Anspruch 1, wobei die Befestigungselemente (3) aus Bolzen oder Schrauben bestehen, die ausgelegt sind, in Gewindelöchern (25), die im Inneren der Seitenpfosten (21a, 21b) des Rückenlehnenrahmens (20) ausgebildet sind, in Gewindeeingriff aufgenommen zu werden.

3. Rückenlehne (1) nach Anspruch 2, wobei die parallelen Schlitze (13, 13', 13") groß genug sind, um zu ermöglichen, dass sich die Bolzen oder Schrauben (3) als eine Gruppe in den Schlitzen drehen, ohne aus den Schlitzen entfernt zu werden.

4. Rückenlehne (1) nach einem der Ansprüche 1 bis 3, wobei der Winkel α zwischen 30° und 60° liegt.

5. Rückenlehne (1) nach Anspruch 4, wobei der Winkel α ungefähr 45° beträgt.

6. Rückenlehne (1) nach einem der Ansprüche 1 bis 5, wobei die Länge der parallelen Schlitze (13, 13', 13") zwischen 10 mm und 50 mm liegt.

7. Rückenlehne (1) nach Anspruch 5, wobei die Länge der parallelen Schlitze (13, 13', 13") ungefähr 35 mm beträgt.

8. Rückenlehne (1) nach Anspruch 2, wobei die Seitenpfosten (21a, 21b) des Rückenlehnenrahmens (20) mit einer Reihe von Gewindelöchern (25) bereitgestellt sind, die ausgelegt sind, die Befestigungselemente (3) in Gewindeeingriff aufzunehmen, sodass eine Höheneinstellung der Polsterstütze (10) an dem Rückenlehnenrahmen (20) ermöglicht wird.

9. Rückenlehne (1) nach einem der Ansprüche 1 bis 8, wobei die Längeneinstellmittel aus Klettverschlüssen, die auf einer Seite des Gurts (13, 13', 13") bereitgestellt sind, und aus komplementären Klettverschlüssen bestehen, die auf der anderen Seite des Gurts (13, 13', 13") bereitgestellt sind.

10. Rückenlehne (1) nach einem der Ansprüche 1 bis 9, wobei die Seitenholme (11a, 11b) der Polsterstütze (10) an mindestens zwei Stellen gebogen sind und so mindestens drei aufeinanderfolgende gerade Abschnitte definieren.

11. Rückenlehne (1) nach einem der Ansprüche 1 bis 10, wobei der Rückenlehnenrahmen (20) ein erstes U-förmiges Element (21) und ein zweites U-förmiges Element (22) umfasst, wobei das erste Element (21) zwei Seitenpfosten (21a, 21b) umfasst, die an ihren unteren Enden durch ein Verbindungsprofil (21c) verbunden sind, und das zweite Element (22) zwei Seitenpfosten (22a, 22b) umfasst, die an ihren oberen Enden durch ein Verbindungsprofil (22c) verbunden sind, wobei das erste und das zweite Element (21, 22) durch obere Klemmelemente (23a, 23b) und untere Klemmelemente (24a, 24b) aneinander geklemmt sind.

12. Rückenlehne (1) nach Anspruch 11, wobei jedes Klemmelement (23a, 23b, 24a, 24b) aus einer Platte besteht, die an ihren zwei Enden derart gebogen ist, dass sie einen Innenraum definiert, in dem einer der Seitenpfosten (21a, 21b) des ersten U-förmigen Elements (21) und entsprechende Seitenpfosten (22a, 22b) des zweiten U-förmigen Elements (22) dicht zueinander angeordnet sind.

13. Rückenlehne (1) nach Anspruch 11 oder Anspruch 12, wobei die oberen Klemmelemente (23a, 23b) jeweils entlang der Seitenpfosten (21a, 21b) des ersten U-förmigen Elements (21) angeordnet sind, um einen Abschnitt der Seitenpfosten (21a, 21b) abzudecken, der eine Reihe von Gewindelöchern (25) umfasst, die ausgelegt sind, die Befestigungselemente (3) in Gewindeeingriff aufzunehmen, wobei die oberen Klemmelemente eine Reihe von entsprechenden Löchern (26) umfassen, die ausgelegt sind, die Befestigungselemente (3) aufzunehmen.

14. Rollstuhl mit einer Rückenlehne (1) nach einem der vorhergehenden Ansprüche.

Revendications

1. Dossier (1) pour un fauteuil roulant, comprenant :

- un support de coussin ajustable (10), pour supporter un coussin de dossier, ledit support de coussin (10) définissant substantiellement un

plan P1 ;
- un cadre de dossier (20) pour retenir ledit support de coussin (10), ledit cadre de dossier ayant deux montants latéraux substantiellement parallèles (21a, 21b) définissant substantiellement un plan P2 ;
- des organes de fixation (3) pour fixer ledit support de coussin (10) audit cadre de dossier (20) ;

caractérisé en ce que :

- ledit support de coussin (10) comprend deux barres latérales (11a, 11b) et une pluralité de sangles flexibles (14) s'étendant transversalement et espacées verticalement, chacune reliant l'une à l'autre lesdites deux barres latérales (11a, 11b), chaque sangle ayant des moyens d'ajustement de longueur pour ajuster la longueur desdites sangles ;
- ledit support de coussin (10) comprenant au moins deux plaques de connexion (12a, 12b), chaque plaque (12a, 12b) étant intégrée à l'une desdites barres latérales (11a, 11b) et étant pourvue d'au moins deux fentes d'ajustement parallèles (13, 13', 13"), lesdites fentes définissant un angle α, avec α>0, avec ledit plan P1 ;
- lesdits organes de fixation (3) étant montés de manière à pouvoir coulisser sur lesdites fentes (13, 13', 13"), en permettant un ajustement de profondeur, de largeur et angulaire dudit support de coussin (10) sur ledit cadre de dossier (20).

2. Dossier (1) selon la revendication 1, dans lequel lesdits organes de fixation (3) sont constitués par des boulons ou des vis prévus pour être reçus par vissage dans des trous filetés (25) formés à l'intérieur des montants latéraux (21a, 21b) du cadre de dossier (20).

3. Dossier (1) selon la revendication 2, dans lequel les fentes parallèles (13, 13', 13") sont suffisamment grandes pour permettre auxdits boulons ou auxdites vis (3) de pivoter en tant que groupe dans lesdites fentes sans être enlevés desdites fentes.

4. Dossier (1) selon l'une quelconque des revendications 1 à 3, dans lequel l'angle α est compris entre 30° et 60°.

5. Dossier (1) selon la revendication 4, dans lequel l'angle α est approximativement égal à 45°.

6. Dossier (1) selon l'une quelconque des revendications 1 à 5, dans lequel la longueur des fentes parallèles (13, 13', 13") est comprise entre 10 mm et 50 mm.

7. Dossier (1) selon la revendication 5, dans lequel la longueur des fentes parallèles (13, 13', 13") est approximativement égale à 35 mm.

8. Dossier (1) selon la revendication 2, dans lequel les montants latéraux (21a, 21b) du cadre de dossier (20) sont pourvus d'une série de trous filetés (25) prévus pour recevoir par vissage lesdits organes de fixation (3), en permettant un ajustement en hauteur dudit support de coussin (10) sur ledit cadre de dossier (20).

9. Dossier (1) selon l'une quelconque des revendications 1 à 8, dans lequel lesdits moyens d'ajustement en longueur sont constitués par des attaches velcro prévues d'un côté des sangles (13, 13', 13") et par des attaches velcro complémentaires prévues sur l'autre côté des sangles (13, 13', 13').

10. Dossier (1) selon l'une quelconque des revendications 1 à 9, dans lequel les barres latérales (11a, 11b) du support de coussin (10) sont recourbées en au moins deux endroits, pour ainsi définir au moins trois sections droites successives.

11. Dossier (1) selon l'une quelconque des revendications 1 à 10, dans lequel le cadre de dossier (20) comprend un premier élément en forme de U (21) et un deuxième élément en forme de U (22), ledit premier élément (21) comprenant deux montants latéraux (21a, 21b) reliés au niveau de leurs extrémités inférieures par un profilé de connexion (21c) et ledit deuxième élément (22) comprenant deux montants latéraux (22a, 22b) reliés au niveau de leurs extrémités supérieures par un profilé de connexion (22c), lesdits premier et deuxième éléments (21, 22) étant serrés ensemble par des éléments de serrage supérieurs (23a, 23b) et des éléments de serrage inférieurs (24a, 24b).

12. Dossier (1) selon la revendication 11, dans lequel chaque élément de serrage (23a, 23b, 24a, 24b) est constitué par une plaque recourbée au niveau de ses deux extrémités de manière à définir un espace interne à l'intérieur duquel l'un des montants latéraux (21a, 21b) du premier élément en forme de U (21) et un montant latéral correspondant (22a, 22b) du deuxième élément en forme de U (22) sont étroitement disposés.

13. Dossier (1) selon la revendication 11 ou la revendication 12, dans lequel lesdits éléments de serrage supérieurs (23a, 23b) sont respectivement positionnés le long des montants latéraux (21a, 21b) du premier élément en forme de U (21) de manière à recouvrir une section desdits montants latéraux (21a, 21b) comprenant une série de trous filetés (25) prévus pour recevoir par vissage lesdits organes de fixation (3), lesdits éléments de serrage supérieurs com-

prenant une série de trous correspondants (26) prévus pour recevoir lesdits organes de fixation (3).

14. Fauteuil roulant comprenant un dossier (1) selon l'une quelconque des revendications précédentes.

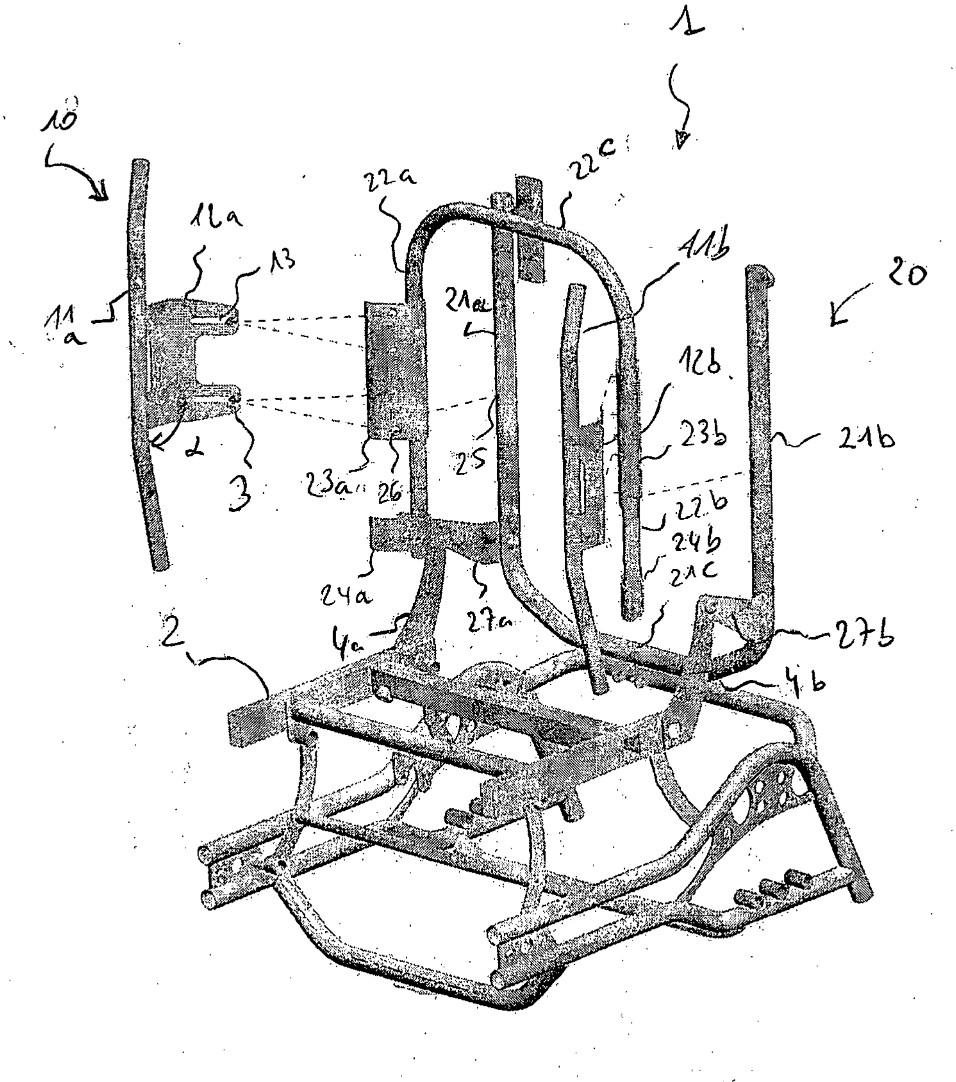
10
1
20
11a
12a
13
22a
22c
11b
21a
12b
23b
21b
2
3
23a
26
25
22b
24b
21c
24a
27a
4a
27b
4b
2

Fig. 1

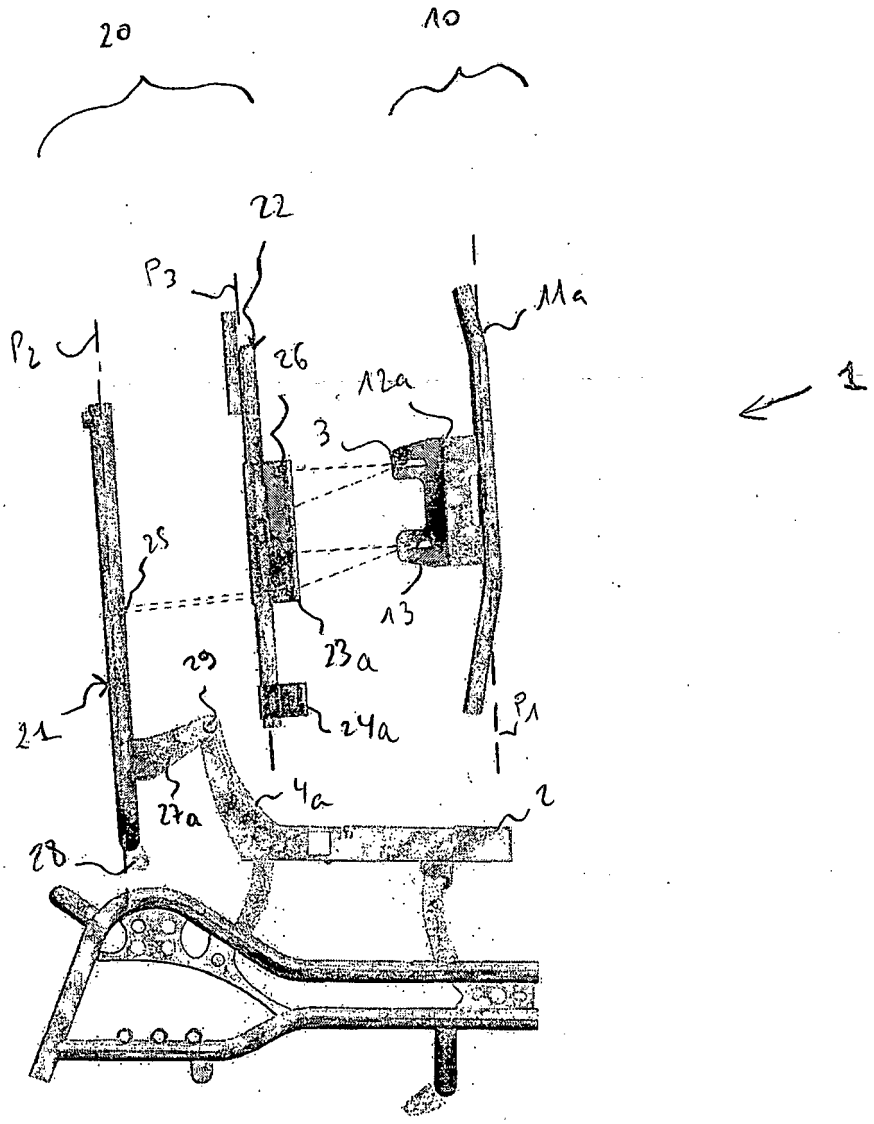

FIG. 2

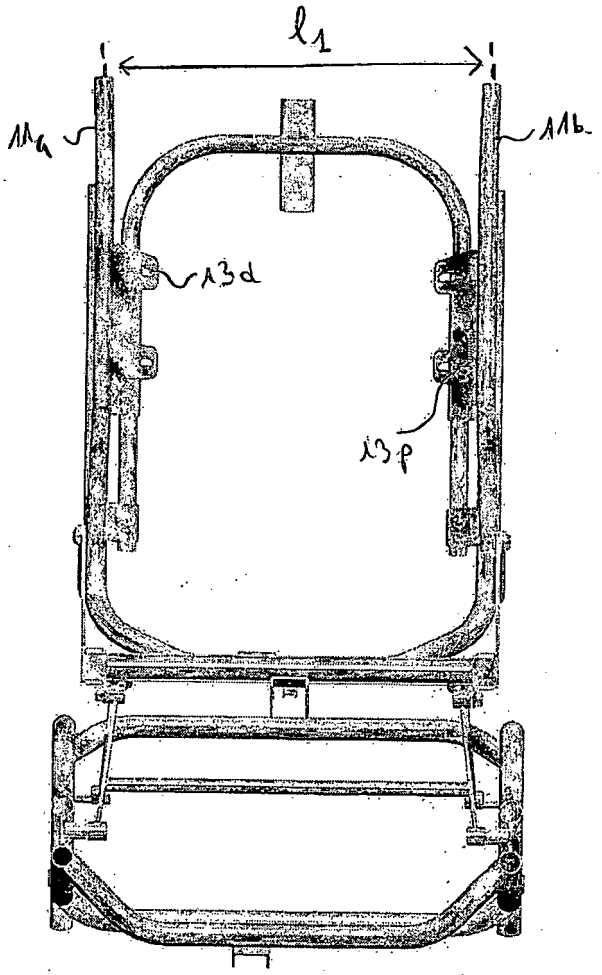

Fig. 3a

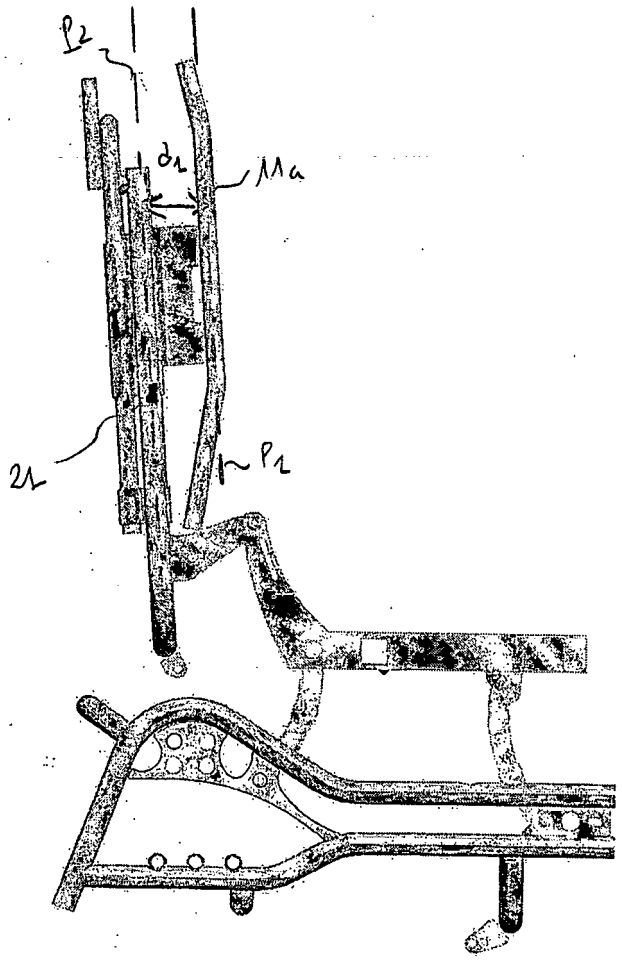

Fig. 3b

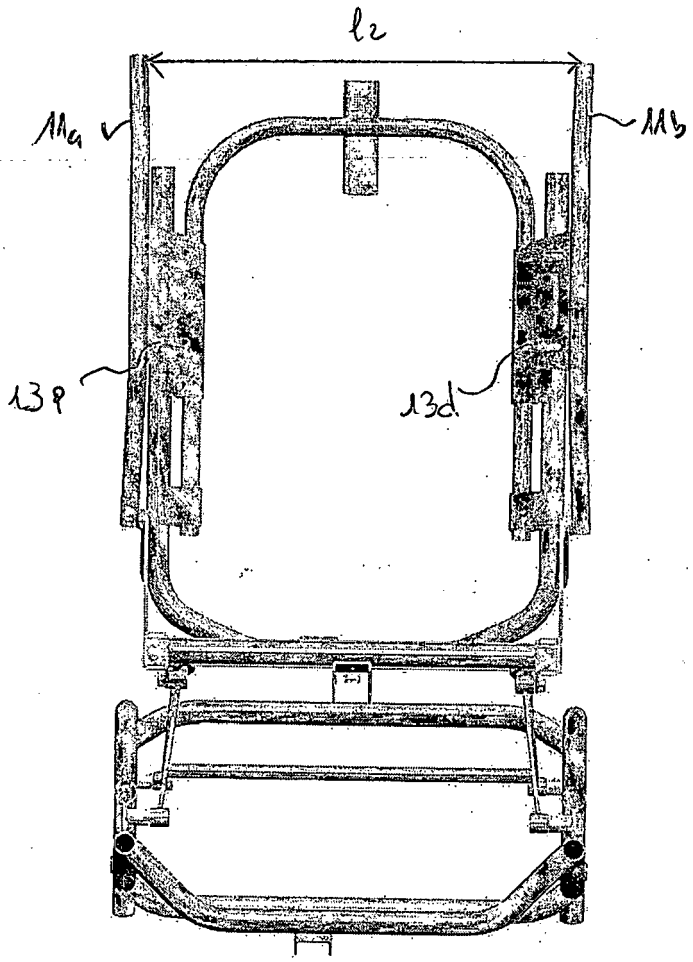

Fig. 4a

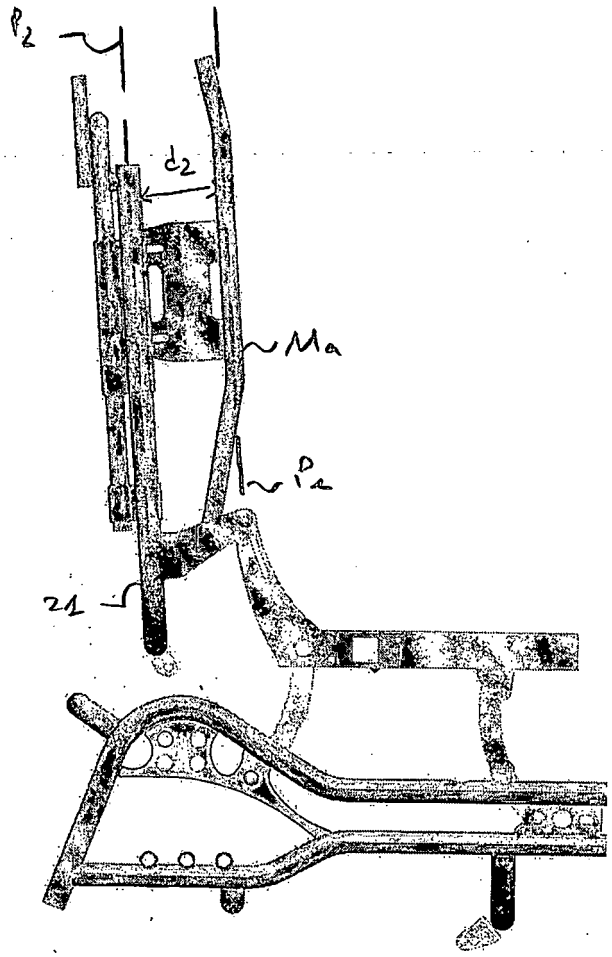

Fig. 4b

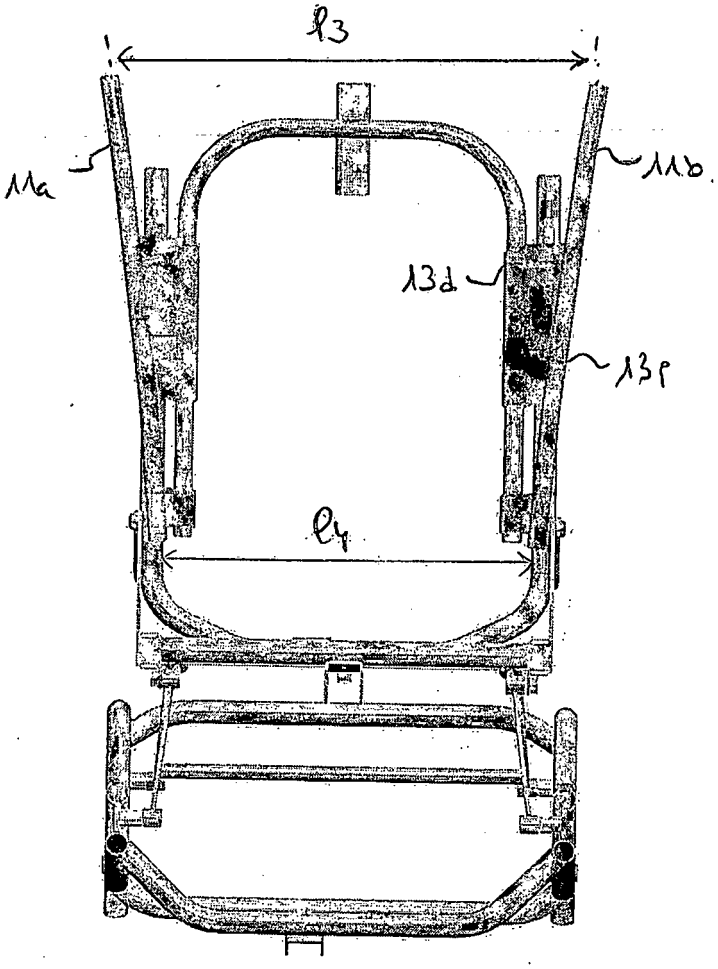

Fig. 5a

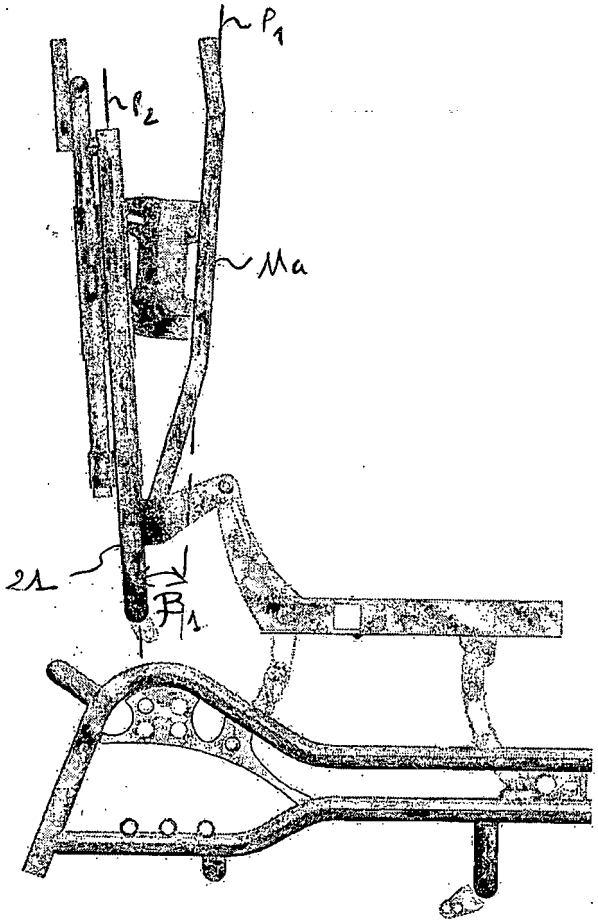

Fig. 5b

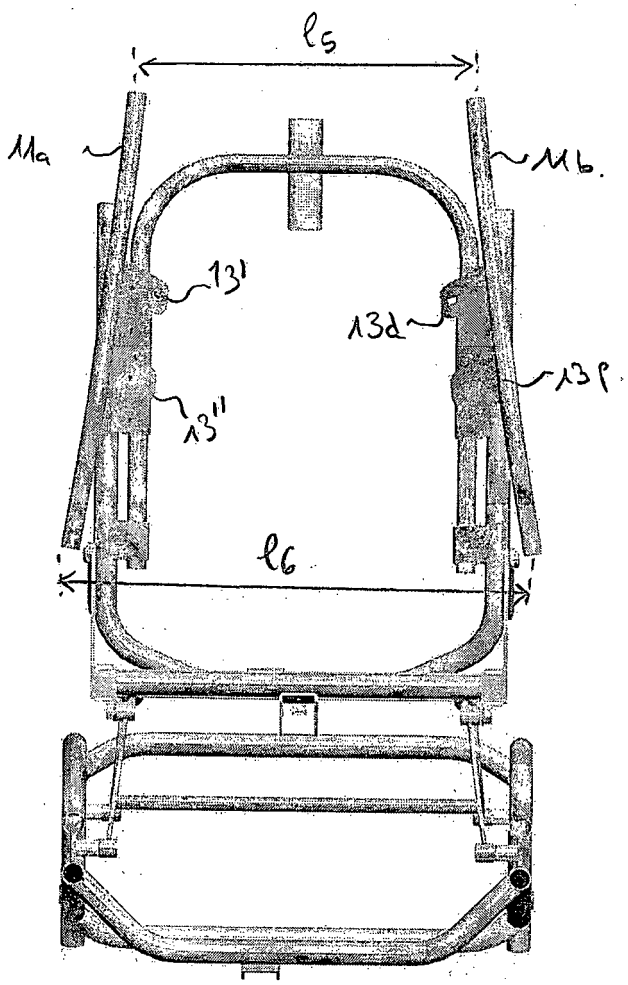

Fig. 6a

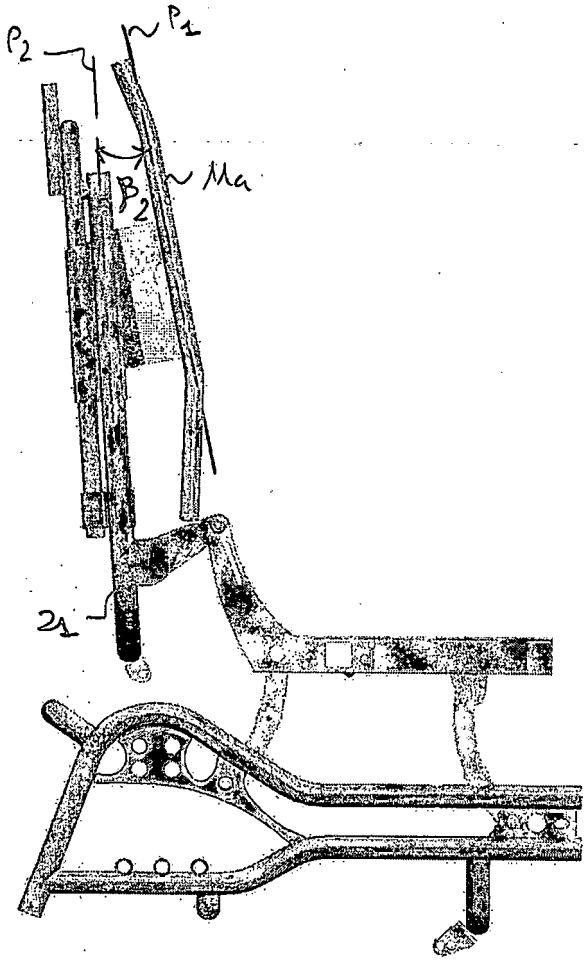

Fig. 6b

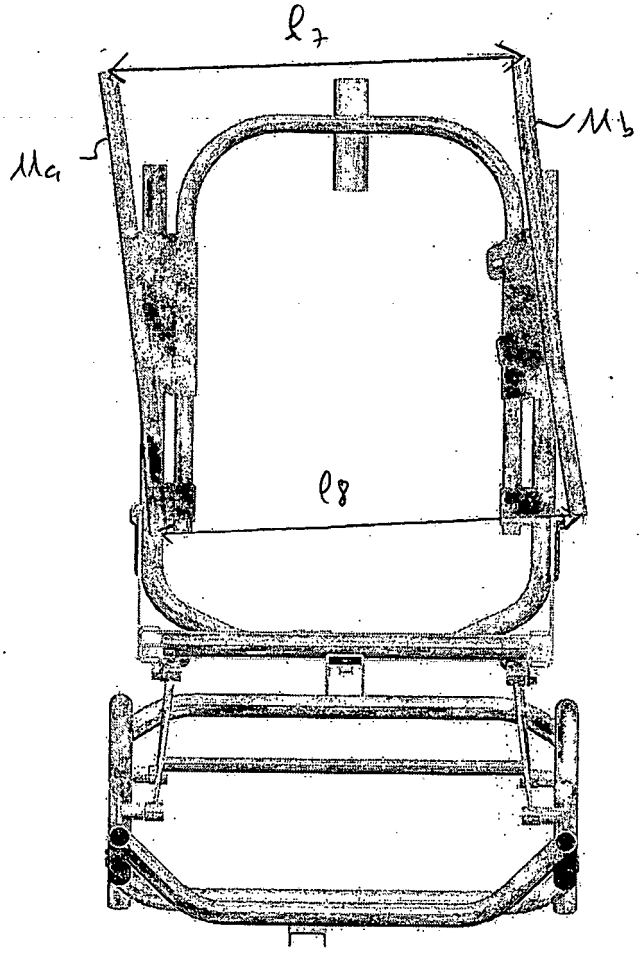

Fig. 7

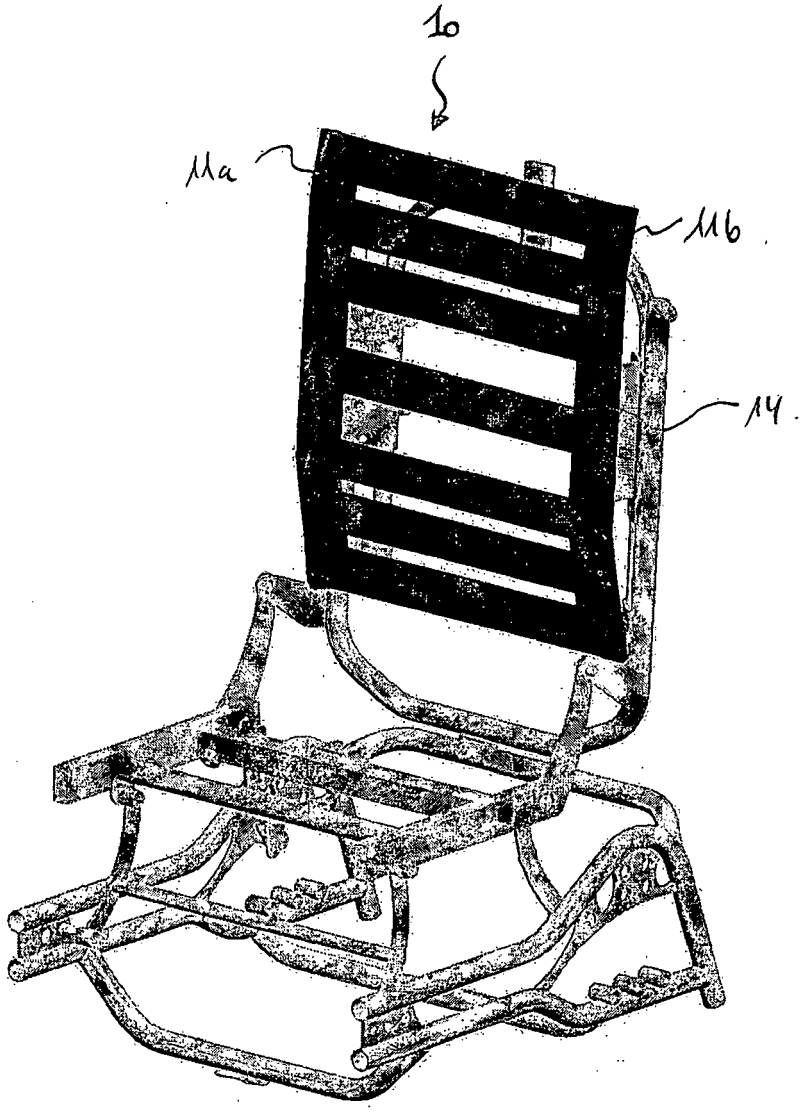

Fig. 8

REFERENCES CITED IN THE DESCRIPTION

This list of references cited by the applicant is for the reader's convenience only. It does not form part of the European patent document. Even though great care has been taken in compiling the references, errors or omissions cannot be excluded and the EPO disclaims all liability in this regard.

Patent documents cited in the description

- US 20060091706 A, Christofferson **[0002]**